

# The Influence of Knowledge on Student Actions in Prevention and Control of Covid-19

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## ABSTRACT

Covid-19 is a new virus that emerged in the world at the end of 2019. Covid-19 is experiencing a very fast increase. These conditions led to the closure of public places, the stoppage of public transportation, the isolation, and management of the infected, all to prevent and control COVID-19. The purpose of this study was to determine the relationship between knowledge and actions of students of the Faculty of Health Sciences, Universitas Pembangunan Nasional "Veteran" Jakarta (FIKES UPN "Veteran" Jakarta) in preventing and controlling covid-19. This research method is the descriptive cross-sectional design. This research was conducted in May 2020 at FIKES UPN "Veteran" Jakarta. The research sample was 233 respondents. Data were analyzed using SPSS with the chi-square test. With the result  $p > 0.05$ , meaning that there is no significant relationship between Knowledge and Action. Based on the results of the analysis test, it can be concluded that there is no significant relationship between the knowledge and actions of the FIKES UPN "Veteran" Jakarta students in the prevention and control of Covid-19. Therefore, further research must research the factors that affect the prevention and control of Covid-19.

**Keywords:** knowledge, action, students, prevention and control, Covid-19

## 1. INTRODUCTION

In December 2019, it was explained that a series of pneumonia appeared in Wuhan, Hubei, China, with no known cause. The clinical symptoms are similar to viral pneumonia. The sequencing results indicate a new coronavirus, so it is called the 2019 novel coronavirus (2019-nCoV). The Coronavirus -19 was declared a world pandemic by WHO [2]. Coronavirus is an RNA virus that commonly infects mammals and birds. This virus often causes animals to get sick. In 2003, the emergence of Severe acute respiratory syndrome (SARS) in China, and 2012 the beginning of the emergence of Middle East Respiratory Syndrome (MERS) in Saudi Arabia. The CoV viruses, both SARS-CoV, MERS-CoV, SARS CoV 2 (Covid-19) originate from bats, then move to ferrets, raccoon dogs, and camels. Next move on to Humans. This coronavirus is spreads very fast and causes death WHO [19] [20].

Covid-19 data dated March 30, 2020), the number of positive sufferers of Corona Virus in the World (Global) reached 735,015 cases, in Indonesia it reached 1,414 cases, DKI Jakarta had 698 cases, West Java 180 cases, Banten 128 cases. The number of deaths in the world reaches 34,804 cases. Indonesia reached 122 cases, DKI Jakarta 74 cases, West Java 20 cases, Banten 4 cases [21]. Priyonugroho [15] Explained that the symptoms found in patients with

positive Coronavirus were fever (94%), cough (79%), shortness of breath (55%), phlegm (23%), myalgia/body aches (15%). Fatigue / Tiredness (23%), headache (8%), coughing up blood (5%), diarrhea (5%), nausea/vomiting (4%) The COVID-19 surge in Wuhan, causing the closure of places public transportation, stopping public transportation, isolating and managing infected people, all to curb the spread of SARS-CoV-2 [16]. Until now there has been no known drug that can kill the Coronavirus. Carried out by medical officers in handling patients who are positive for the Coronavirus is to treat the symptoms that appear in these patients.

Prevention efforts are currently carried out through individual-level prevention, namely through personal and home hygiene efforts, then through increasing self-immunity and controlling comorbidities (comorbidities). Community-level prevention includes limiting physical interactions, implementing effective cough and sneezing, health quarantine, physical distancing, and social distancing, supporting health facilities, and government efforts [2]. WHO [19] [20] Explains that efforts to prevent and control the coronavirus are: by washing hands frequently using methamphetamine and running water, or with a hand rub, maintaining a distance of at least 1-2 meters between individuals, avoiding touching the eyes, nose, and mouth, do so effective stone techniques. If you have fever, cough, and difficulty breathing, consult

the call center for medical personnel. Always update information and follow the advice of medical personnel. Efforts to prevent and control Covid-19 cannot be separated from people's behavior.

Riene Christopher Riuben, et al [16], in their research explained the second hypothesis which is about good knowledge about the spread of the COVID-19 virus in Northern Nigeria. The results obtained in tables 7 and 8, namely  $p < 0.005$ , indicating that there is no significant effect between knowledge and the spread of the COVID-19 virus. Community behavior that affects the success of preventing and controlling Covid-19 includes the knowledge, attitudes, and actions of the community. Hutahean, Anggraini and Nababan [8] explained that the knowledge, motivation, and perceptions of a nurse can influence the implementation of infection prevention and control (PPI). Halton et al [5] explained that the increase in the implementation of PPI is strongly influenced by the high knowledge and ability or actions of nurses in implementing PPI. Efstathiou et al [4] Explained that knowledge contributes to compliance and makes it easier for someone to implement programs and preventive measures. This shows that a person's knowledge, attitudes, and practices can affect the prevention and spread of COVID-19, there are also characteristics or factors that influence it, starting from gender, occupation, education, age, and so on.

Efforts to eradicate the COVID-19 outbreak, nurses, doctors, and even students must know the latest developments, especially those related to public health, and by following the right guidelines, namely the WHO guidelines [22] to make efforts to prevent the transmission of the disease. Therefore, this research was conducted to know the relationship of knowledge with the actions of UPN "Veteran" Jakarta FIkes students in Prevention and Control of the COVID-19 Pandemic.

## 2. METHODS

This research is quantitative research with a descriptive method using a cross-sectional design. This research was conducted in May 2020. The

location of the research was carried out at the Faculty of Health Sciences, Universitas Pembangunan Nasional Veteran Jakarta (FIKES UPN "Veteran" Jakarta).

The population in this study were students of the FIKES UPN "Veteran" Jakarta. The way to select research samples is to pay attention to inclusion criteria and exclusion criteria. The inclusion criteria of this study were active students of the FIKES UPN "Veteran" Jakarta First semester to the end, physically and mentally healthy, and willing to be respondents. The exclusion criteria were inactive students of UPN "Veteran" Jakarta FIKES, students of the current semester teaching research class when collecting data. The sampling of this research was carried out by means of probability with simple random. The method of determining the sample size is based on the number of minimum sample requirements in this study. The sample size calculation can be done using the Slovin technique. The number of research samples was 233 respondents.

The research data was collected by distributing questionnaires using Google Doc Form. The data obtained were then analyzed using the chi-square test, which is to determine the relationship between knowledge and actions of the FIKES UPN "Veteran" Jakarta students in preventing and controlling Covid-19.

## 3. RESULTS

233 Respondents distributed through the Google doc Form have been processed. The results of the most dominant demographic data are respondents with the age of 20 years as many as 77 (34.1%), female gender as much as 211 (93.4%), another domicile (outside Jabodetabek) as much as 61 (27%), S1 Nursing study program as much as 126 (55.8%), and Islam religion as much as 209 (92.5%). The results of the analysis of the relationship between student knowledge and actions in the prevention and control of Covid-19 can be seen in Table 1:

Table 1 The relationship between student knowledge and actions in preventing Covid-19 in FIKES UPN "Veteran" Jakarta students in 2020 ( $n = 233$ )

KNOWLEDGE	ACTION				TOTAL	P- VALUE	ODDS RATIO
	Good n	Good %	Not Good n	Not Good %			
<b>Good</b>	84	54.9%	69	45.1%	153	100%	0.996
<b>Not Good</b>	44	55%	36	45%	80	100%	(0.578– 1.175)
<b>TOTAL</b>	128	54.9%	105	45.1%	233	100%	

The research data in table 1 shows that the proportion of good student knowledge with good student action is higher, namely as much as 84 (54.9%) compared to poor knowledge with less good action from students of Fikes UPN "Veteran" Jakarta. The results of good student knowledge with less good student actions were more, namely 69 (45.1%) students compared to the results of poor

student knowledge with poor student actions as many as 36 (45%) students.

The results of the analysis of the relationship between knowledge and student actions in the prevention and control of Covid-19 showed that the statistical test results using the Chi-square test were  $p > 0.05$ . It can be concluded that there is no

significant relationship between students' knowledge and actions in preventing Covid-19.

#### 4. DISCUSSIONS

The result of this study is that there is no relationship between knowledge and student actions in preventing and controlling Covid-19. Judging from the results of this study, it is very different from previous studies. Where the previous research explained that there was a relationship between knowledge and infection control and prevention measures. In this case the prevention and control of Covid-19. The results of this study are not in accordance with the research of Hutahaean, Anggraini and Nababan [8] concerning the analysis of factors related to nurse compliance in the implementation of infection prevention and control in hospitals, explaining that there is a significant relationship between knowledge of nurses and infection prevention and control measures ( $p = 0.01 <0.05$ ). Research by Devi Pramitha Sari [3] on the relationship between public knowledge and compliance with the use of masks as an effort to prevent Covid-19 in Ngronggah, explains that there is a relationship between public knowledge and compliance with wearing masks with the Chi-Square test using fisher exact which gives  $p = 0.004 (<0.05)$ . The results of this study are also inconsistent with the research of Suryaningnorma et al [15], the knowledge variable has a significant effect on compliance behavior. Research conducted by Jelantik and Astarini [9] regarding the relationship between knowledge and the act of washing hands, also obtained conflicting results with this study, namely, there was a relationship between knowledge and the act of washing hands with a p-value of 0.000.

The factors that affect action or compliance in preventing and controlling Covid-19 are not only knowledge. Many people are aware of the efforts to prevent and control Covid-19, but in reality, many people do not do what they know. This is what supports this research so that there is no relationship between knowledge and prevention and control of Covid-19. In addition to knowledge, funding factors and unsupportive technology, inadequate supervision, and auditing from the leadership decreased resistance of leadership activeness in supporting nurses to prevent and control infection greatly affects nurses' non-compliance in implementing infection prevention and control [5]. Hutahaean's research, Anggraini and Nababan [8] Explained that in addition to knowledge factors, motivational factors and perceptual factors influence infection prevention and control measures. The material and equipment factors used also greatly influence the implementation of Covid-19 prevention and control measures [11]. Inadequate accessibility of materials or tools in the implementation of infection prevention and control affects the implementation of prevention and control measures for Covid-19 [14].

The results of this study also show that most of the students of the FIKES UPN "Veteran" Jakarta have good knowledge with good actions to prevent and control Covid-19. Preventive action is an indicator that is important to understand and implement. However, this high level of knowledge does not affect Covid-19 prevention and control measures. Nofal et al [12] researched doctors and nurses in implementing compliance with infection control measures. The results obtained are low knowledge of doctors and high knowledge of nurses. However, doctors and nurses were found to have high compliance in implementing infection control measures. This shows that knowledge does not always influence Covid-19 prevention and control measures.

Syahputri's research [4] shows that handwashing has not become a culture practiced by Indonesian society at large. According to the Ministry of Health [19], prevention of the Covid-19 virus can be done by physical distancing, washing hands, coughing/sneezing etiquette, using masks, reducing non-urgent outdoor activities, and washing hands in public places. In the community, there are still many who rule out actions to prevent Covid-19, washing hands only with water when they want to eat and washing hands with soap are only done after eating, even though hands are a medium that carries disease germs, so washing them before eating using soap is an effort to prevent the disease itself. Hand hygiene is the easiest and more efficient and most cost-effective way to prevent infection [1]. The community, in this case, students, most already know about the prevention and control measures of Covid-19, but there are still many who don't want to do it. The community still has not done physical distancing, is not obedient to using a mask every time they travel and / or when coughing flue. Thus, even though someone has high knowledge, it does not guarantee to have high action also in the implementation of prevention and control of Covid-19.

Notoatmodjo [13] explains that know can occur if there is a sensory process by a person through his five senses which consists of the senses of touch, taste, smell, hearing, and sight. Knowledge will provide the basis for what something will do or not do. A person's knowledge regarding Covid-19 and how to prevent it can be the basis for whether or not behavior to prevent Covid-19 is carried out.

Covid-19 prevention and control are related to the health belief model theory. The health belief model is a theory that is often used in health promotion and health education [7]. The main concept of the Health belief model in its early development is that healthy habits are influenced by individual beliefs or perceptions of disease and the strategies that have been implemented to reduce the incidence of disease. According to this theory, if individuals take preventive actions against health problems, five factors influence it, namely Perceived Susceptibility, Perceived Seriousness, Perceived Benefits and Barriers, Perceived Threat, and Cues to

Action. The action of a person who feels that the disease is severe and disturbs his health is to try to seek treatment and prevention of the disease even though he does not know about the disease. Even though a person already feels susceptible to a disease, it will not immediately change a person's healthy behavior. Someone will take preventive measures against the disease if that person feels susceptible to the disease. This perception of vulnerability is influenced by age and gender. There is a relationship between perceived vulnerability and knowledge [6]. From this knowledge, a person will tend to have a perception of vulnerability to the problem of being overweight.

Perceived seriousness is a person's subjective perception of the risk of disease. If the threat of vulnerability is felt by individuals, their preventive behavior will increase [7]. A person will be motivated to take preventive action or cure a disease if he feels serious about the disease being felt. Perceived benefits are a person's opinion about the benefits and value that will be obtained by implementing new health behaviors. A person will adopt better health behaviors if they believe their new healthy behavior will lower their chances of getting the disease. This perception plays an important role in the implementation of secondary prevention of health problems such as health screening. These perceived barriers discuss that change does not come easily, someone will consider what obstacles will be obtained if someone tries to change health behavior. The perception of the obstacles to be faced plays an important role in changing behavior because this perception will give a person's decision to change or not. Things that may become barriers to behavior change are the high costs needed to change behavior, dangerous, unpleasant, time consuming, and so on. The combination of perceived benefits and perceived barriers becomes a person's consideration in deciding behavior change.

Research conducted by Hayati [6] states that respondents who have sufficient knowledge and have sufficient perceptions regarding the benefits and obstacles of an action. Individuals do not change their health behavior because they feel that doing these actions will cause difficulties either physically, psychologically, or socially. The perceived threat will be even stronger if the individual knows the impact that will occur if the health problem is not handled. A person will take preventive measures against a health problem if he feels that there is a threat coming from his illness [17]. The level of education, in this case, the knowledge of a health problem, cannot be used as a measure that determines the strength of a person's perception of the perceived threat.

The influencing factors can be cues to action from a person to behave healthily. Cues to action are an activity, person, or anything that makes a person move to change, such as mass media campaigns, illness of family members, media reports, suggestions from others, and newspaper articles. Correct acceptance of the vulnerability, the seriousness of a problem, benefits, and constraints of action requires a signal or

direction for action. These cues come from external factors, for example from the mass media, advice or suggestions from friends or family members who are sick, and information from health workers [17].

## 5. CONCLUSION

This research was conducted to find out how the relationship between knowledge and action in preventing COVID-19 among FIKES UPN "Veteran" Jakarta students. The results of this study indicate that there is no significant relationship between the knowledge and actions of students in preventing Covid-19. Most of the UPN "Veteran" Jakarta FIKES students have good knowledge of COVID-19 prevention and control measures. The factors that influence action or compliance in preventing and controlling Covid-19 are not only knowledge. Many people are aware of the efforts to prevent and control Covid-19, but in reality, many people do not do what they know. This supports this research so that there is no link between knowledge and prevention and control of Covid-19.

Based on the findings in this study, it is suggested that further research needs to be carried out in relation to the factors that affect the prevention and control of Covid-19.

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